DOCUMENT RESUME

ED 472 976 SO 034 487

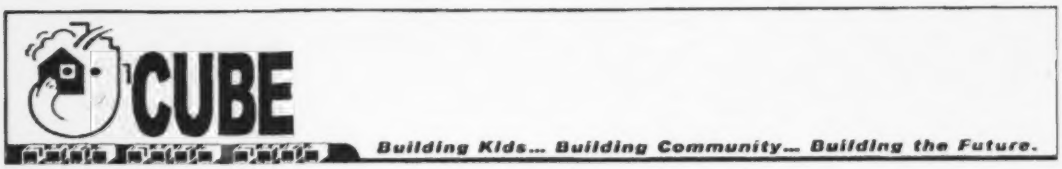
TITLE	Box City Curriculum.
INSTITUTION	Center for Understanding the Built Environment, Prairie Village, KS.
PUB DATE	2002-00-00
NOTE	23p.
AVAILABLE FROM	Center for Understanding the Built Environment, 5328 W. 67th Street, Prairie Village, KS 66208. Tel: 913-262-8222; Fax: 913-262-8546. For full text: http://www.cubekc.org/lessons.html.
PUB TYPE	Collected Works - General (020) -- Guides - Classroom - Teacher (052)
EDRS PRICE	EDRS Price MF01/PC01 Plus Postage.
DESCRIPTORS	Academic Standards; *Architecture; *Built Environment; Community Characteristics; Creative Activities; Intermediate Grades; Land Use; Middle Schools; Primary Sources; *Social Studies; *Student Projects; *Urban Areas; Urban Planning

ABSTRACT

This curriculum packet contains two lesson plans about cities and architecture intended for use with students in upper elementary grades and middle schools. The first lesson plan, "City People, City Stories" (Jan Ham), states that understanding architecture and cities must begin with an understanding of the people of the city. The children create scale Box City citizens and create, develop, write, and share stories about those citizens. The lesson plan suggests time allotment; provides an overview; indicates subject matter; cites learning objectives; addresses standards and Center for Understanding the Built Environment (CUBE) components; notes materials needed; describes preparation time for teachers; presents an introductory activity, a learning activity, and a culminating activity; discusses evaluation/teacher reflection; suggests cross-curricular extensions and community connections, and contains a "Houses in Books" resource list, scale figures information, a scale ruler, and character type information. The second lesson, "Grid It, Map It" (Jan Ham), continues the "Box City" activity. It states that, once a Box City is built, groups of children use bodies and string to grid the city and map sections of the city. It notes that the activity invented itself over the course of several gym-sized Box Cities in New England towns, where many town layouts are based on the area's varied topography. The second lesson plan offers the same type of detailed procedures for classroom implementation as the first lesson plan. Contains the scale ruler, a sample grid, and a grid example. (BT)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 472 976



Box City Curriculum

CUBE - Center for Understanding the Built Environment
5328 W. 67th Street
Prairie Village, KS 66208
Phone: (913) 262-8222
Fax: (913) 262-8546
E-mail: CUBE

http://www.cubekc.org/lessons.html

2002

SO 034 487

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

G. Graves

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

BEST COPY AVAILABLE

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Box City Curriculum
Table of Contents

City People, City Stories 1

Understanding architecture and cities must begin with an understanding of the people of that city. This set of activities enables children to think about the city from that perspective: the children create scale Box City citizens; then, following their natural inclination to invent stories about the people and buildings they create, they develop, write, and share those stories.

As a precursor to these activities the teacher introduces illustrations and excerpts from children's literature wherein authors and illustrators describe places in the built environment.

Grid It, Map It 11

Once a Box City is built, groups of children use bodies and string to grid the city, then map sections of the city. The activity can be used with smaller city layouts as well, or following Boomtown projects.

This activity invented itself over the course of several gym-sized Box Cities in New England towns. Whereas in some areas of the country towns and cities are based on straight lines and square corners, many New England town layouts are based on the area's varied topography. Given hills, and a river running next to the base of the hills, early settlers most often began their towns along the river; subsequent roads either skirted the edges of the hills or wound their way up and over those hills. The benefit of overlaying our New England topography with a regular mapping grid becomes clear in this hands-on mapping exercise.

Title:	**City People, City Stories**
Author: **Organization:** **Location:**	Jan Ham Learning By Design in Massachusetts Boston Society of Architects www.architects.org/education
Grade Level:	3 – 8
Time Allotment:	Introductory Activity: 30 minutes or more Activity: 30-45 minutes Culminating Activity: 1-2 hours
Overview:	This lesson plan refers to **Box City**. For a better understanding of Box City visit the Box City Tour at http://www.cubekc.org/architivities/box1.htm. Understanding architecture and cities must begin with an understanding of the people of that city. This set of activities enables children to think about the city from that perspective: the children create scale Box City citizens; then, following their natural inclination to invent stories about the people and buildings they create, they develop, write, and share those stories. As a precursor to these activities the teacher introduces illustrations and excerpts from children's literature wherein authors and illustrators describe places in the built environment.
Subject Matter:	Language Arts (literacy), Visual Arts, Mathematics (scale), Social Studies (sense of self, sense of place)
Learning Objectives:	The children will: • See and hear examples of how authors and illustrators Describe architecture places • Create ¼"=1' scale Box City citizens • Develop stories about the citizens of Box City • Share those stories • Recognize common elements in the process of design planners and architects use to design the built environment, and the process writers use to design stories.
Standards:	**Massachusetts Curriculum Frameworks** http://www.doe.mass.edu/frameworks/

	English Language Arts: • Writing as an essential way to develop, clarify and communicate ideas (Guiding Principle 4) • Students will identify, analyze and apply knowledge of the structure and elements of fiction (Standard 12) **Visual Arts:** • Interdisciplinary Connections (Standard 10) **Mathematics:** • Number and Number Relationships (Standard 1.6) • Computation and Estimation (Standard 1.8)
CUBE components:	**Box City**: *Does your City Work for You?, Who Makes the Rules?, Role Playing* Quotes, pages. 11, 75, 141: "When we look at our cities, we see ourselves." "Tell me the landscape in which you live, and I will tell you who you are." "Place is where we are. Place is where we want to be. Place is what we want to create."
Materials:	For scale figures you will need per child: 1 pipe cleaner 1 piece of fabric 1.5" x 2.5" 1 5" piece of yarn 1 piece of oaktag or index card 3"x3" (plus extra craft materials for adding details to scale figures) scissors stapler pencils Resources (found in Resources and Handouts link): Houses in Books For *Box City News*: student writing and drawing materials; plus method for reproducing newsletters, e.g. computer Handouts (found in Resources and Handouts link): Scale Figures Scale Rulers: ¼" = 1'

WEB CURRICULUM:
Center for Understanding the Built Environment (CUBE)
5328 W. 67th Street, Prairie Village, KS 66208
Phone: 913-262-8222 Fax: 913-262-8546

Prep for Teachers:	• Select books, illustrations, and excerpts from *Houses in Books* list to share with students. • Prepare scale figures materials ahead of time, as needed. • Determine how you will print and reproduce *Box City News*. • Consider informing curriculum specialists about the cross-curricular potential of these activities, e.g. involving the Art Teacher in the drawing exercise.
Introductory Activity:	**Places and Spaces in Literature** Once, while typing a draft for a book, I allowed myself the diversion of building a model Lego house to use in my next day's design work with a third grade class. As I was alternately writing and building I realized that, in much the same way an author "builds" with words, an architect or illustrator creates with pencil and paper, or a Lego-builder builds with blocks. Each designer starts with a vision in the mind, then picks up the "materials" and begins connecting and creating. At some point each designer stops and evaluates the work thus far; sometimes this leads to a disassembling and reassembling of the structure (or drawing or paragraph), and so on, until the designer's inner voice tells him or her that, yes, the story (or drawing, or building) is just right. This series of activities helps children–whatever their strengths within the multiple intelligences model (some children are stronger in language, some in math, some in spatial activities for example)–to see and work within a common ground–to use the design process not only to build, but to write about what they build. I have tested out this analogy with groups of children, and yes, they agree, the writer, the artist and the builder are all engaging in the process of design. So begin these activities by selecting and sharing with your students examples of how writers and illustrators describe buildings in books, how they communicate a sense of place. My favorite picture book for this is **Roxaboxen**, by Alice McLerran. **Tar Beach** has a strong sense of place; in **Anno's Journey** every page is filled with potential stories; and what more powerful place for a child than Max's room in **Where the Wild Things Are.** Upper elementary and middle school fiction has its share of

	descriptions of places and spaces, but I have found none to compare to page one of **The Hobbit,** wherein Mr. Tolkien carefully and completely takes his readers on a tour of a hobbit hole. When we learn of a hobbit's architecture, we learn about him. The next activities will build upon this connection.
Learning Activity:	**Box City Citizens** Even before the Box City is built, have the children create scale figures to represent the people of Box City. This activity works best in ¼"=1' scale, wherein every ¼" of scale person represents 1' of real-life person. For younger children this scale can be described as 1" = 4'. Ruler can be found at the Resources and Handouts link. This activity will work quite well even without a major Box City event–the children can create people, then make one-box-homes for each person, or build a quick "Boomtown" city out of boxes or blocks. This activity also works when the children building historic cities–simply turn the figures into scale Romans, Egyptians, Colonists, and so on. Following the *Scale Figures* sheet, have each child construct a scale person. They should invent a name, age, and occupation for their person, and be allowed to add embellishments (e.g. yarn hair, backpacks, pets, etc.) to the basic person to better illustrate their personality. Be sure to create a scale person yourself, too. It is very likely that once the scale figures are built, or even half-built, you will see the children beginning to "play" with them. They are already inventing stories; encourage them to orally share these stories with each other: "Who is your person? What will he be doing in the City? Where will he be living? and so on."
Culminating Activity:	The children have seen, heard, and discussed how authors and illustrators communicate their ideas about architecture. They have built Box City people, and built their Box City. What follows next, quite easily and naturally, is the development and production of the *Box City News*. You may want to allow the children to be involved in the whole newspaper development process–they can brainstorm as to what types of articles the newspaper would need. You can of

	course turn this more into a collection of stories, too. Each "article" would most likely include writing and an illustration. The drawing and first draft need to be done while the children are in the city. The Art teacher may assist with or extend the drawing activity. Subsequent writing drafts can be done back in the classroom; you may want to allow each child's "citizen" to be placed on each writer's desk to provide continued inspiration and help each child remember his or her point of view. Allow for several drafts before the final copy is ready for the press. To end this sequence of activities reproduce and share copies of the *Box City News*. Ask the children to compare the methods they used to communicate their ideas about cities – writing, drawing and building. Did some children find one method more challenging than others? More rewarding in the end? Did combining the methods offer, overall, a more defined view of the City?
Evaluation/ Teacher Reflection:	This project can be defined and therefore evaluated as a Design project. 1.Define the design problem: *Whom* are we designing for? With *what* materials? *When* should we be done? *Where* will the final product end up? *Why* are we doing this? In this case, your children should help you write the answers to these questions, e.g.: "We are creating scale Box City citizens... so that we may better tell their stories... We are telling their stories because...." At the end of the activity ask the children: • Did we solve our stated design problem? • How well did we solve it? • If we had the time, should it have been improved upon? How? The *Scale Figures Sheet* and *Scale Rulers Sheet* will help the children self-assess their citizen-building activity. These handouts can be found at the Resources and Handouts link. Teachers may evaluate student writings through their usual assessment approaches.

Cross Curricular Extensions:	**Math** – Use the scale figures and rulers to engage in further explorations of scale. **Science** – Use the wiry scale figure bodies to discuss how our bodies are structured. **Art** – Bring the scale citizens and some of the buildings to aid drawing projects, e.g. perspective drawings.
Community Connections:	Invite a local news reporter to speak with the class. Share the students' Box City stories with the reporter, and discuss how reporters share the stories of real community members. Trade photographs, drawings and pages from *your Box City News* via mail or internet with other students who have done Box Cities in other parts of the world.

Houses in Books Resource List

Picture Books for Younger (and older) Readers

*Alphabet City (Johnson)
Alexander & the Wind-up Mouse (Lionni)
*Anno's Journey (Anno)
Art House (Percy)
As I was Crossing Boston Common (Farber)
Ben's Dream (Van Allsburg)
*The Big Orange Splot (Pinkwater)
The Biggest House in the World (Lionni)
*Block City (R. L. Stevenson)
Bus Route to Boston (Cocca-Leffler)
The Castle Builder (Nolan)
City Street (Florian)
Faraway Home (Kurtz)
*Fly Away Home (Bunting)
Frankie's BauWau House (Brown)
Free Fall / Hurricane (Wiesner)
George Shrinks (Joyce)
Going Back Home (Wood)
Goodbye, House (Asch)
*A House, A Home (Goffstein)
A House for Hermit Crab (Carle)
*A House is a House for Me (Hoberman)
The House on East 88th Street (Waber)
*If I Built a Village (Mizumura)
I'll Build a House for the Wrens (Neitzel)
In the Night Kitchen (Sendak)
*Journey Around Boston from A to Z (Zschock)
Letting Swift River Go (Yolen/Cooney)
*The Little House (Burton)
Lorenzo (McPhail)
Magic in the Mist (Kimmel / Schart Hyman)
Matthew Wheelock's Wall (Weller)
Miss Rumphius (Cooney)
The Molasses Flood (Lent)
Motel of the Mysteries (Macaulay)
Night of the Gargoyles (Bunting)
Norman the Doorman (Freeman)
Percy and the Five Houses (Minarik)
*Roxaboxen (McLerran / Cooney)
The Secret Shortcut (Teague)
Squirrel Park (Ernst)
*Tar Beach (Ringgold)
The Village of Round and Square Houses (Grifalconi)
*Where the Wild Things Are (Sendak)
Winter Barn (Parnell)

These FICTION books contain well-written descriptions of houses and buildings and/or good illustrations of architecture. In some, houses, villages, or cities are central to the story. In others, small characters inhabit ordinary houses, toy castles, trees, etc. In many, there is a strong sense of place.

Middle & Upper Level Fiction:
Alice's Adventures in Wonderland (Carroll)
The Birthday Room (Henkes)
The Borrowers (Norton)
Bridge to Terebithia / Lyddie (Paterson)
Building Blocks / Homecoming (Voigt)
The Castle in the Attic (Winthrop)
Charlie & the Chocolate Factory / The Minpins (Dahl)
The Birchbark House (Erdich)
Green Knowe series (Boston)
The Hobbit (Tolkien)
The Hotel Cat (Averill)
House at Pooh Corner / Winnie the Pooh (Milne)
Island of the Blue Dolphins (O'Dell)
James & the Giant Peach (Dahl)
Little House on the Prairie (Wilder)
The Lion, Witch, and the Wardrobe (Lewis)
Maniac Magee (Spinelli)
My Side of the Mountain (George)
The Phantom Tollbooth (Juster)
A Place Called Ugly (Avi)
A Room Made of Windows (Cameron)
Secret City, USA / Slake's Limbo (Holman)
Tuck Everlasting (Babbitt)
The Wind in the Willows (Grahame)
Walk Two Moons (Creech)

BEST COPY AVAILABLE

Scale Figures

Scale
Ruler

Scale: $\frac{1}{4}$" = 1' or Scale: 1'=4'
means that every $\frac{1}{4}$" of your scale figure represents 1' in real life.
So a 1" tall scale figure represents a 4' tall person,
and a 1.5" tall scale figure represents a 6' tall person.

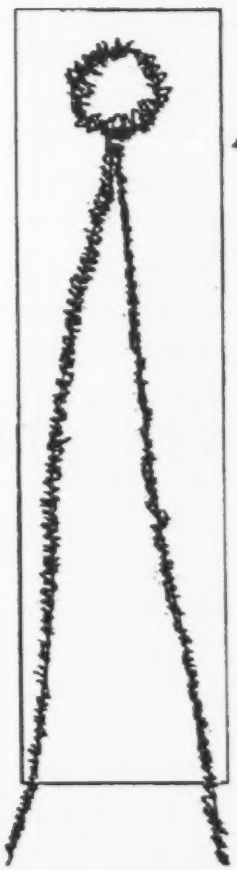
Instructions (hint: laying your pipe cleaner directly on top of the illustrations below may help you build the figure correctly.)

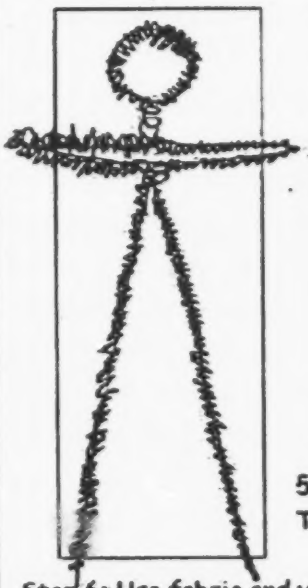
Step 1: Bend a 12" pipe cleaner in half. Insert a pencil at the top bend, and twist twice just below the pencil to form the "head" and "neck."

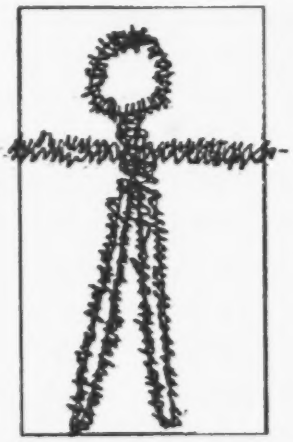
Step 2: Bring each pipe cleaner end out and back in $\frac{1}{4}$" to form the "arms." Twist once below the arms to keep the body together.

Step 3: Bend each remaining pipe cleaner "leg" up (bringing its "feet" to its "chest") to shorten the whole figure and to thicken the body.

Step 4: Bend the bottom of each "leg" to form the "feet."







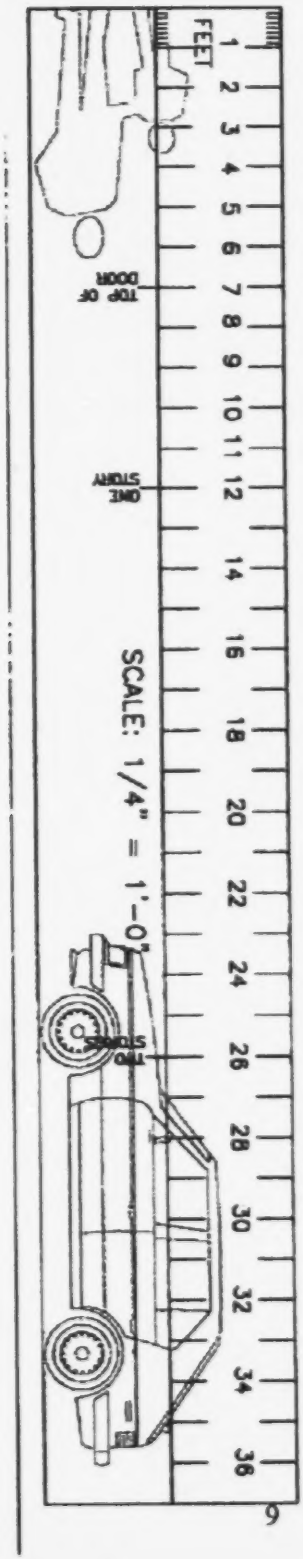
5: Measure scale figure against the ruler.
Try to make the figure no taller than 1.5 inches.

Step 6: Use fabric and yarn to make simple, poncho-style clothes. Add other details, as desired - hair, backpacks, strollers, pets, etc.

Step 7: Staple the figure's feet to a small square of oaktag (about 3"x3") Write your scale figure's name, age and occupation on the oaktag square.

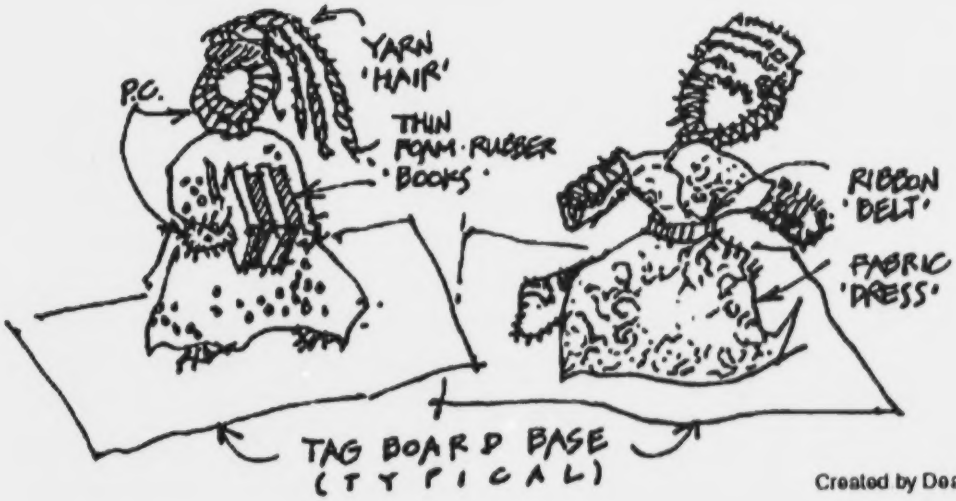
BEST COPY AVAILABLE

SCALE RULER


FEET
1 2 3 4 5 6 7 8 9 10 11 12 14 16 18 20 22 24 26 28 30 32 34 36
TOP OF DOOR
ONE STORY
TWO STORIES
SCALE: 1/4" = 1'-0"

Character Types

Who do you think they are? Where do they go in the City?
What do they do in the Box City?
What spaces and places do you need to design for them?



Created by Dean W. Graves

BEST COPY AVAILABLE

Title:	**Grid It, Map It**
Author: **Organization:** **Location:**	Jan Ham Learning By Design in Massachusetts Boston Society of Architects www.architects.org/education
Grade Level:	4-8
Time Allotment:	Introductory Activity: 40 minutes Activity: 40 minutes Culminating activity: 1 hour
Overview:	Once a Box City is built, groups of children use bodies and string to grid the city, then map sections of the city. The activity can be used with smaller city layouts as well, or following Boomtown projects. This activity invented itself over the course of several gym-sized Box Cities in New England towns. Whereas in some areas of the country towns and cities are based on straight lines and square corners, many New England town layouts are based on the area's varied topography. Given hills, and a river running next to the base of the hills, early settlers most often began their towns along the river; subsequent roads either skirted the edges of the hills or wound their way up and over those hills. The benefit of overlaying our New England topography with a regular mapping grid becomes clear in this hands-on mapping exercise.
Subject Matter:	Mathematics, Social Studies, Science & Technology - Mapping, Grids, Scale, Drawing Plan Views
Learning Objectives:	The children will: • physically experience and discover the utility of gridding an area for mapping purposes • engage in the design process to define and solve their design problem • draw features of their scale model in 1"=1' scale • draw features of the built environment in plan view • work cooperatively to construct grid lines over a Box City model • work cooperatively to assemble grid drawings into a whole map

Standards:	**Massachusetts Curriculum Frameworks** http://www.doe.mass.edu/frameworks **History/Social Sciences:** • Physical Spaces of the Earth (Geography Standard 7) • Places and Regions of the World (Geography Standard 8) **Science and Technology:** • Lifelong learners are able to understand and apply the design process and the use of technology in society (Strand 3) **Mathematics:** • Working together in teams and groups enhances mathematical learning, helps students communicate effectively and develops social and mathematical skills (Guiding Principle V) • Students will use Problem-Solving, Communicating, Reasoning, and Connecting to explore, Develop, investigate and know: Number Sense (1.1); Computation and estimating (1.8); Geometry and Spatial Sense (3.3); Measurement (3.4) (Content in Mathematics)
CUBE components:	**Box City:** *Cognitive Mapping; Mapping the Special Places; Boomtown; Understanding the Plan*
Materials:	**48 children/participants** 1000' of visible string 22 small orange traffic/gym cones directional compass prepare two sets of each for coordinate signs: A,B,C,D,E,F; 1,2,3,4,5; (symbols large enough to be read from across the city) **per child:** pencil ruler drawing compass eraser clipboard crayons or markers 2 sheets graph paper handout (found in Handouts Link) scale ruler handout (found in Handouts Link)

	handouts: • 1/4" or 1" graph paper prepared as indicated below in Prep for Teachers (called Grid in Handouts Link) • Scale Rulers: 1" = 1' 1/4" = 1' 1/8" = 1' (called The Scale Ruler in Handouts Link) • Grid Example
Prep for Teachers:	Look ahead to the Box City activity: **Review handouts and use where needed.** Will you be building in 1/8" = 1' scale or 1/4" = 1' scale? How much total floor space will the City cover? If you grid the City as shown here (5 squares by 6 squares), what will be the dimensions of each square? This explanation uses grids of 8' x 8'. Prepare a graph paper master, then copy for student handouts. Use a thick black marker and a straightedge to draw an 8" x 8" square on 1" x 1" graph paper. Use a thinner black marker and a straightedge to draw the interior grid lines, 1" apart. Make a place on the sheet—just *inside* a corner of the 8" x 8" grid—for children to write their names, scale of the map, and arrow indicating North, and grid coordinates (e.g. C, 3). Also: read the Evaluation section of this lesson plan. Decide if you want your children to begin the set of activities by clearly, in a group, writing out the design problem that they need to solve. If they do so now you will all have a clear basis on which to evaluate your work during and after the activities are completed. Children often perform better at tasks they have defined for themselves, tasks that have an understood and agreed-upon purpose.
Introductory Activity:	**Mapping Practice–Drawing In Plan View / Drawing In Scale:** Prior to Box City, prep the children: Introduce concepts of mapping, the utility of gridding, and compass directions. Work with the children to lay out an 8'x8' square on a floor. Place construction-paper greenspace, roads and waterways on the 8'x8' space. Set several boxes, blocks or objects of different shapes on the space to represent features of the built environment. Label each building and feature.

	Be sure that some roads, waterways, greenspaces and buildings extend *beyond* the edges of the 8'x8' space. Clearly mark each side of the space to represent N,S,E,W. Discuss and demonstrate how to draw an accurate plan-view sketch of the space and all of its features, in scale, on the graph paper handout sheet. Drawing in PLAN means drawing a two-dimensional, top, or bird-eye view. Drawing in SCALE: 1" = 1' means that every 1" of the graph paper represents 1' of model space. (Model space, not real-life buildings' space. There is yet another scale relationship between the box models and the real- life buildings they represent. Do not confuse this issue.) Demonstrate that you are building exactly *what* you see within the 8'x8' square, and exactly *where* it is in the square. Draw the land features first, then the buildings. The interior grid lines on the graph paper handout are there to help locate where buildings should be drawn. Have the children help you measure a box building with the 1"=1' scale ruler and determine how large you should draw that building on your graph paper. Demonstrate, too, that you are standing in one location to draw, e.g. on the South side of the square, looking North; and that you have oriented your graph paper to match. If only part of a building or road is sited within the square, that is what you draw—part of the building. In the real Box City each child will be drawing one grid; other children will be drawing the adjoining grids. Children tend to draw the buildings too small. To counteract that, you may want to demonstrate sketching very lightly at first, marking key building corners locations with x's or dots, until you see that the layout is somewhat of the proper size to fill the square. Then use a straightedge and draw over your sketch lines for a more permanent drawing. Next, have each child take a pencil, eraser, ruler, clipboard and graph paper handout. (You may have to divide the class into groups; only about 8 children can comfortably practice drawing this space at the same time.) Have each child: • Orient his paper to the direction in which he is drawing.

	• Sketch the locations of every land feature, then built feature. • Have her paper checked; make corrections as needed. • Draw over sketch lines, using a straightedge or compass when needed to make a more permanent drawing. • Color and label features and buildings.
Learning Activity:	**Gridding the City** [Note: This explanation uses a 40'x48' Box City layout set in a gym. Adapt as needed for layouts of other sizes.] **Prep:** Pre-determine and label "North, South, East, West" in Box City. Pre-set cones along the perimeter of the City: 1 cone at each corner 5 additional cones along north and south sides, 8' apart 4 additional cones along east and west sides, 8' apart Pre-cut string lengths long enough to span each opposing pair of cones to create a grid (add an additional 2' to each length to give each child something to hold onto.) Lay coordinate signs along the perimeter, in-between the cones. **Activity:** Bring 48 children into the gym. Have the first team of two children each pick up an end of the first string, walk that string across the city to its location (a pair of opposing cones), hold the string tight at top-of-the-cone height, and sit down. Cooperation is needed from all participants throughout this activity. Continue with second string, and so on, until the string grid is created. (This is more interesting when you do *not* prep the children. Somewhere in the stringing process you will see them realize what they are creating.) Assign the rest of the children to be "coordinate holders," i.e. have them sit at a sign along the perimeter and hold up their sign. Discuss why they think they have just done what they have done, why grids can be useful in a city layout, and why mapmakers use coordinates. Help the children to suggest and try out location games:

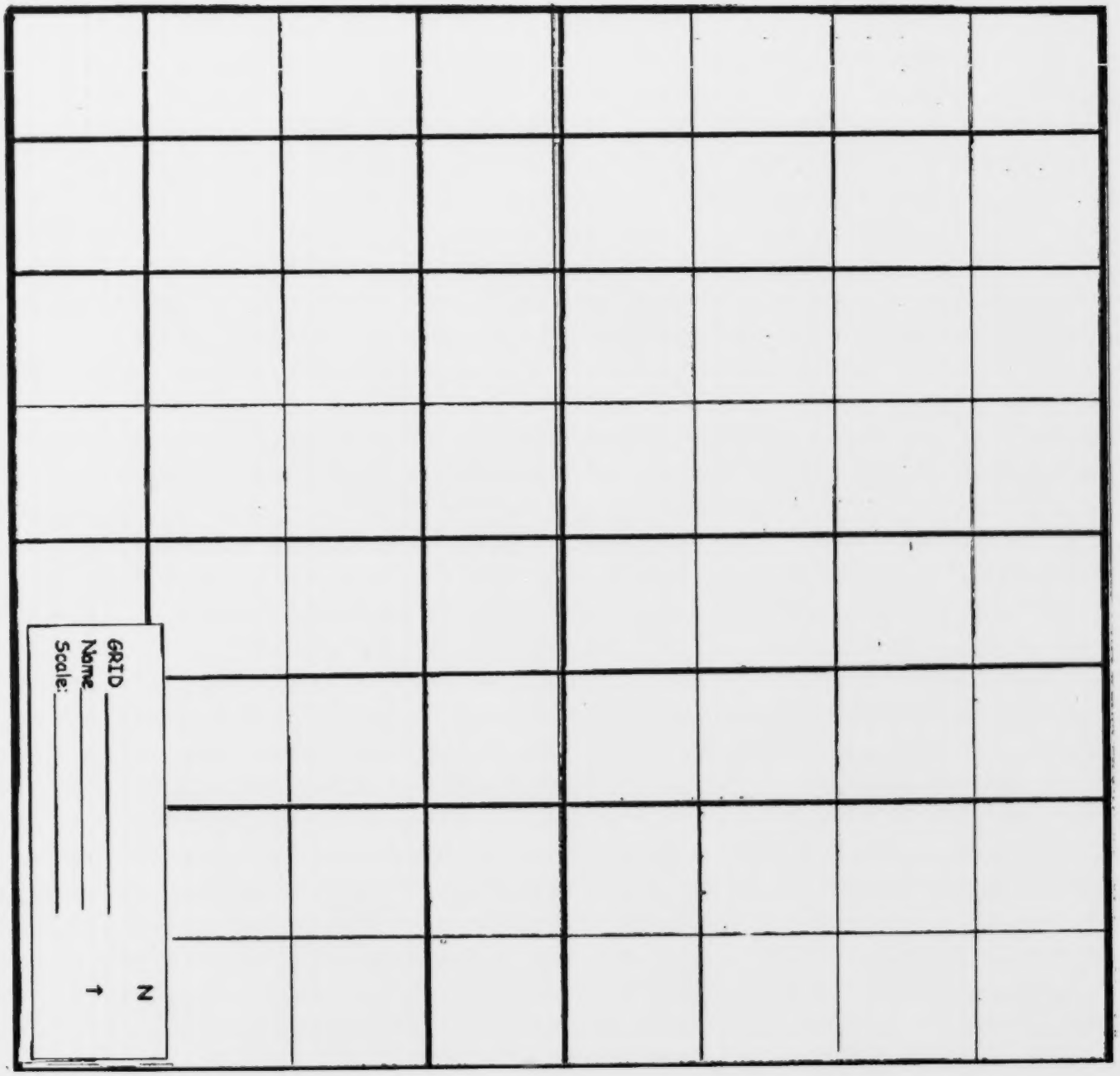
	• moving a student through the city with coordinate instructions • placing a student in a spot and asking the children to describe where he is • moving a student from one building to another using street names and cardinal directions [Note: keep the strings set up for the next activity.]
Culminating Activity:	**Mapping the City** **Prep:** have *one class of children* each bring pencil, crayons or markers, eraser, ruler (compass-optional), clipboard, 2 copies of the graph paper handouts to the gym. Review what was learned in the Mapping Practice activity. **Activity:** assign each child a City grid (e.g. A, 4). Orient the children all the same way (e.g. all facing North) and BE SURE their graph paper is oriented to match. Have them write their name, grid number, "North" arrow, and "Scale: 1"=1'" on their graph paper sheet. Each child will need to stand just outside of (i.e.to the South of) his grid to fully draw it. Tell the children that this may result in some children needing to stand in *someone else's grid* and that cooperation is required. As done in the practice activity, have each child sketch, then have their sketch checked, then draw the land features and built environment features within his/her grid. **Final piece:** Back in class, have each child neatly trim the excess edges from his graph paper sheet, keeping only the grid drawing (and the black edge line). Test fit all of the grid sections together. In a moment of self-assessment, have the children check and see how well their edges connect with those of their adjacent squares. Have the children work together to erase and redraw lines as needed. Then have them each take their individual grid drawings back and color, then label the features. Connect the individual grid-maps together into a large wonderful wall map, a permanent memory of Box City.

Evaluation/ Teacher Reflection:	This project can be defined and therefore evaluated as a Design project. 1.Define the design problem: *Whom* are we designing for? With *what* materials? *When* should we be done? *Where* will the final product end up? *Why* are we doing this? In this case, your children should help you write the answers to these questions, e.g.: "We are creating a two-dimensional representation of our Box City model...to end up on the school lobby wall...for ourselves and others to view... after Box City ends.... so we can remember what was in the city...and so on." At the end of the activity ask the children: • Did we solve our stated design problem? • How well did we solve it? • If we had the time, should it have been improved upon? How?
Cross Curricular Extensions:	Extension: take one or more Box City grid maps outside to a paved surface. Work with the students to—with measuring tools, string, and chalk—enlarge the features and buildings of that grid to full scale. Related reading: **Map Making With Children**, by David Sobel
Community Connections:	Acquire and study town planners' maps of your local neighborhood. Compare how the town maps communicate information about the natural and built environments with how your final Box City map communicates information about your Box City world.

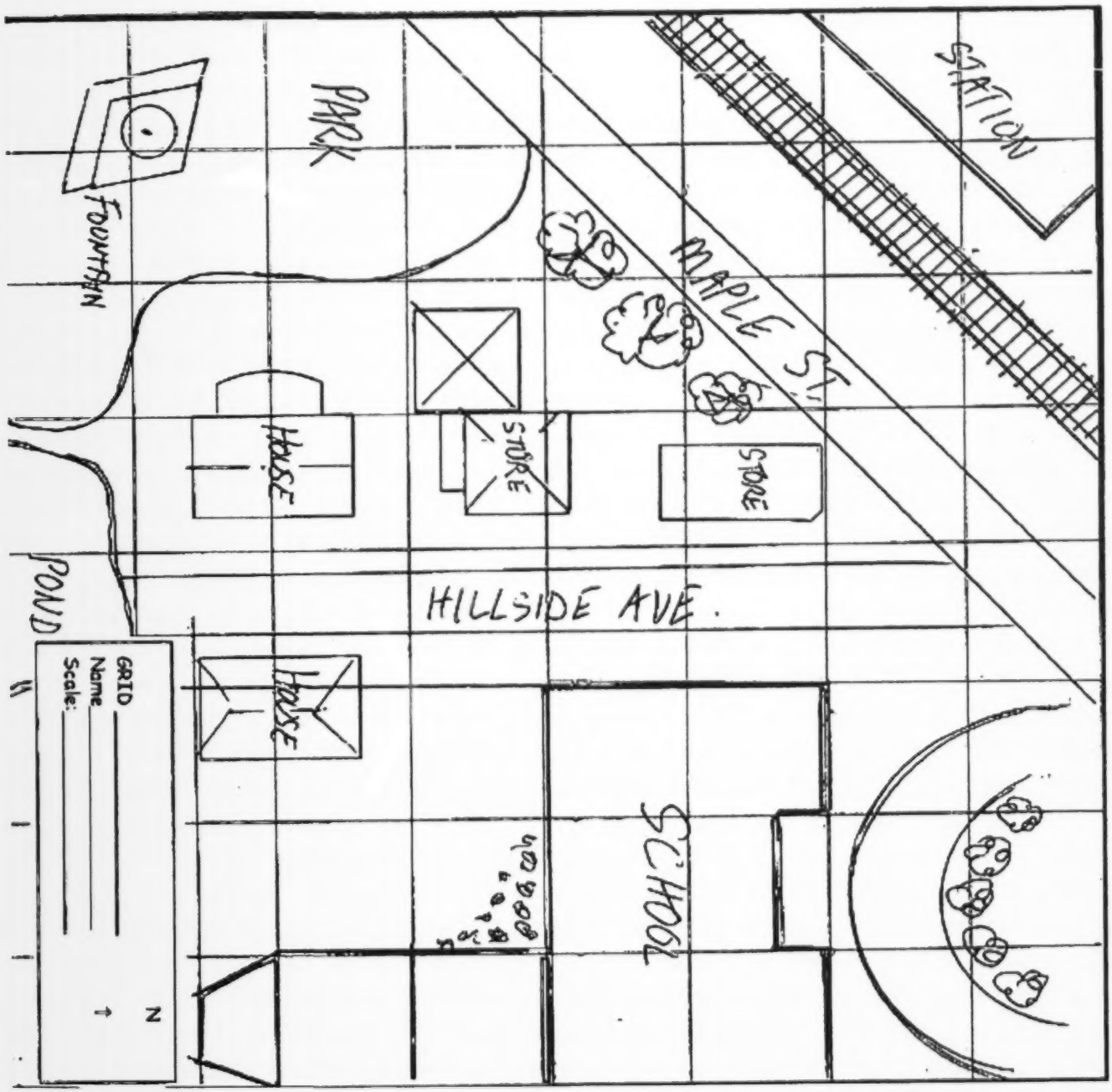
WEB CURRICULUM:
Center for Understanding the Built Environment (CUBE)
5328 W. 67th Street, Prairie Village, KS 66208
Phone: 913-262-8222 Fax: 913-262-8546

THE SCALE RULERS

GRID



GRID EXAMPLE



U.S. Department of Education
Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)

NOTICE

Reproduction Basis

This document is covered by a signed "Reproduction Release (Blanket)" form (on file within the ERIC system), encompassing all or classes of documents from its source organization and, therefore, does not require a "Specific Document" Release form.

This document is Federally-funded, or carries its own permission to reproduce, or is otherwise in the public domain and, therefore, may be reproduced by ERIC without a signed Reproduction Release form (either "Specific Document" or "Blanket").